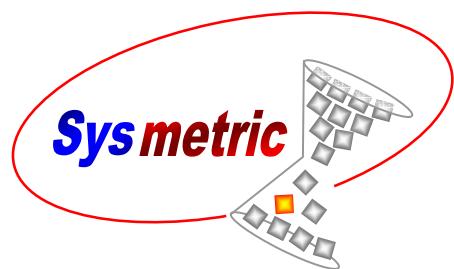


MinuMan II

Blenders and Line Control Management Software

USER MANUAL



MANUAL NUMBER: MINUMAN V1
March 2009

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1 Introduction

The Minuman software system is designed to manage and control Sysmetric's gravimetric blenders and screw control systems. This manual describes Minuman, software version 2.01

1.1 Main Features

View line status and change set-points.

Recipe management – saving and subsequent loading of recipes according to Production Orders.

Flexible material consumption reports based on acquired data.

Control several lines from one computer.

The program and all of its features can be run from each computer in the factory network.

Modular system enabling the easy addition of lines.

1.2 How to use this manual

Section 2, Getting Started, shows how to start the program and initial orientation. Read the section in order to become familiar with the terms used throughout the manual.

Section 3, Changing Set-points - shows how to control the line's features (change set-points).

Section 4, Create and Handle production orders - explanation of recipes and production orders.

Section 5, Database – explanation of database.

Section 6, Reports - shows how to produce reports.

Section 7, Appendix – examples of various screens and reports that may vary between different installations.

2 Getting Started

This section shows how to start the program and how to find your way around.

2.1 Configuration

The program can run simultaneously on a number of computers on the factory network and therefore consists of a core program and a UI (User Interface) program.

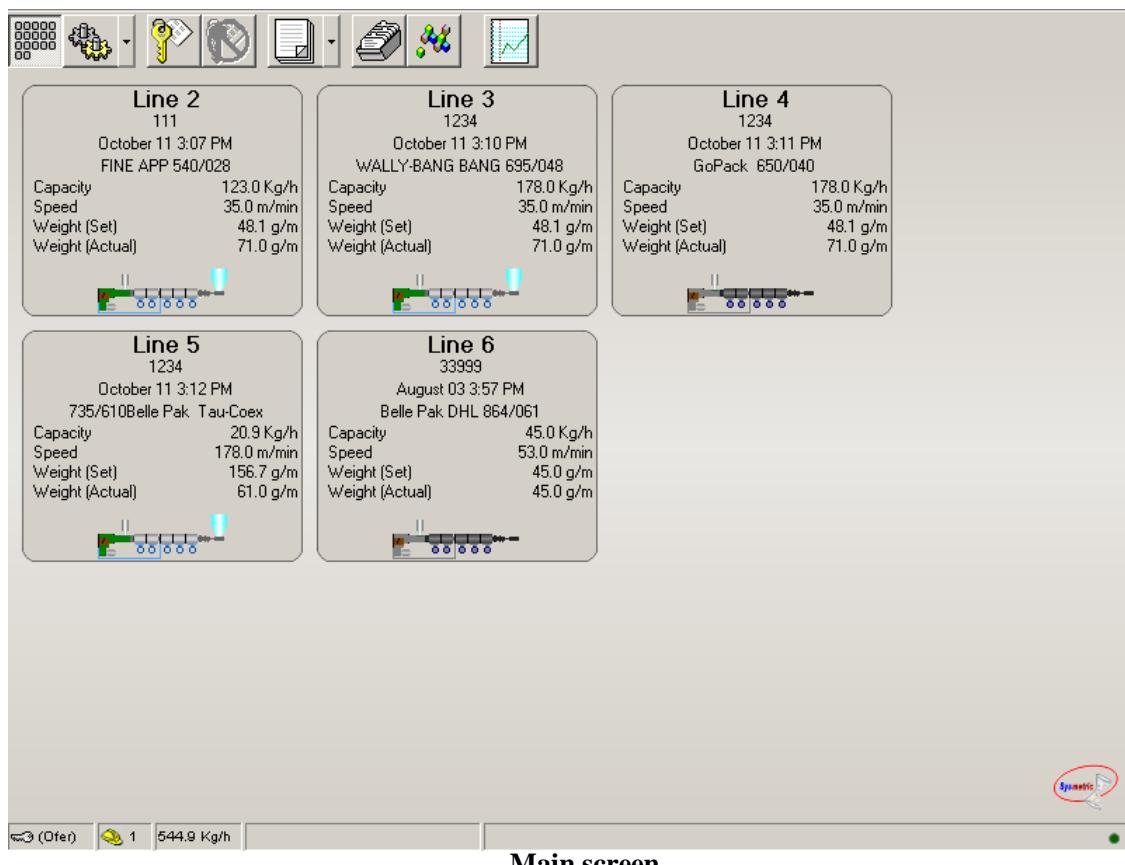
The core program only runs on the online computer (the computer that is physically connected to the PLCs), it does all of the work (automatic and manual operations), does not have a user interface and runs automatically upon the computer's startup.

The user can start the UI program by double clicking the MinuMan icon on any computer on the factory network.

This manual describes the UI program.

2.2 Structure and screens

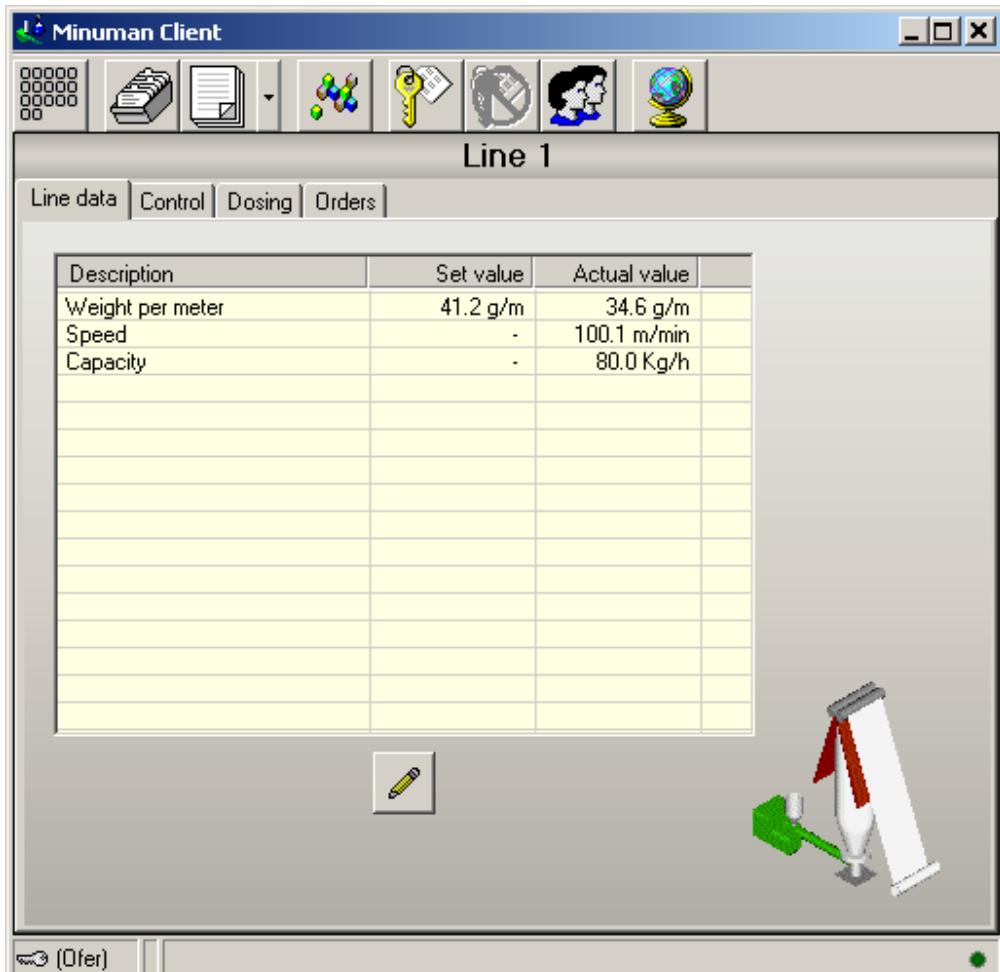
The software's main screen shows each line's basic features (line name, product name, production order number, speed, capacity etc.) and a changing image representing the line's status. Double click the line tab to access the line control screens.



Main screen

2.3 Line Screens

After double clicking on the specific line tab in the Main Screen the Line Screen appears:



The actual contents of the screens are described in the appendix, since the screens vary between different installations.



Return to the main screen by clicking the button.

2.4 Authorization

The MinuMan program allows user controlled access to specific tables and actions, defining which actions each user can perform. Each operation can only be activated by an authorized operator.

Each network computer is set up with a default authorization level.

2.4.1 Login



Click on the icon in the main toolbar. The following login dialog box appears:



Enter user name and password and click . If the user is not recognized by the system an error message will appear.

Login should be performed when an operation requires a higher level of authorization than the computer station's default level. The system will now grant access in accordance with the user name.

2.4.2 Logout



To logout click the icon on the main toolbar:
Logging out will reset authorization to the default level.

Remember: If you login as a user with a higher authorization level in order to perform a specific task, it is important to logout at the end of the task to prevent unauthorised activities.

Note: Automatic logout will occur after 30 minutes of inactivity.

2.4.3 User Profile Definition

The system administrator defines new users and their access privilege levels.

Access privileges levels are set by group. Groups are created for users who require similar access to a resource. Each user is then assigned to a group by his or her *user type*.



Click on the icon on the left hand side of the main toolbar.

Click "Manage users" to open the following screen:

Edit Users		
Nick	Name	User Type
111111111111	222222222222	System administrator
Ofer	Ofer_PC	System administrator
ofer-mobile		System administrator
Operator	line Operator	Line Operator
tcpEditor	111	Recipe Editor
ShiftMan	111	Shift Manager
Tomer	Tomer_Computer	System administrator
tomerg	Tomer Goshen	Line Operator
User	user_name1	Guest

Use the "Edit Users" screen to edit and delete users.

2.4.4 Creating and Editing User Profiles

To add a new user, click the "Add" button (left hand side of the screen). Enter the information required:

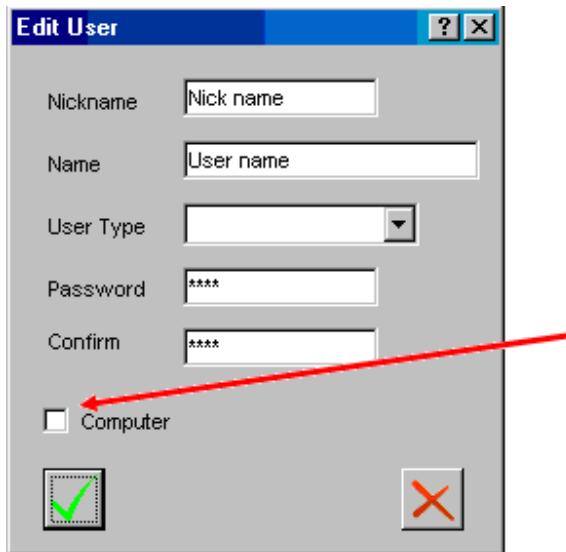
Nickname – used as user name at login

Name – used to display current user, it is shown on the lower left hand side of the screen

User type – authorization group of user

Password – password for login

Computer - when the "Computer" checkbox is ticked the workstation will be identified automatically by the system without the need to login



Click to save and exit, to cancel and exit click .

Note: Clicking "edit" in the "Edit Users" screen will display the user information stored in the system.

2.4.5 Deleting a User

Use the mouse to highlight the user then click "delete". Click to save the changes, click to cancel and exit.

2.5 Languages

The program provides local language interfaces in addition to English.

2.5.1 Changing Languages



To change the user interface language, click on the  icon on the main toolbar and then click "Select Language". Changing the language causes MinuMan to restart – no data will be lost.



3 Changing set-points

Most of the line's features have set-points and actual values. A set-point value can be changed, the actual value is displayed as it is read.

Some set-points do not affect the control system, but are merely there for documentation purpose, such as distance between drippers (in drip lines), production order ID, name of material etc.

Set-points can be changed directly or by loading a recipe (loading a production order).

3.1 Changing set-points directly

Changing set-points directly is used for making minor and local modifications to the process.

To directly change set-point:

Mark the value for modification.



Click the button or double click the value. An appropriate modifying dialog box for this value will appear.

3.2 Loading production order

Another way to change the set-points is to load the next production order as explained in “Production order queue” section.

4 Creating and Handling Production Orders

Each product has its own recipe containing the dosing and control values (control values, if exist, are weight per meter, layer percentage, speed etc.).

The recipes are stored in the program's database. To create a production order, add a recipe to the production order parameters and send it to the line. The production order will wait in the line's queue to be loaded.

4.1 Raw Materials

The raw materials are of utmost importance in the recipes and must always be kept up to date.



Click the button to access the raw material screen:

Materials						
	Catalog Number	Full Name	Short Name	Bulk Density	Density	Material Type
▶	0000	--	(null)	(null)	(null)	0
	0001	HOMO	(null)	(null)	(null)	0
	0002	COPD	(null)	(null)	(null)	0
	10001	Red	(null)	(null)	(null)	0
	10002	Blue	(null)	(null)	(null)	0
	10003	Green	(null)	(null)	(null)	0
*	catalogNo_testt	fullName_testt	shortName_	(null)	(null)	0

Actions

Editing and deleting – as in Excel.

Addition – simply write in the bottom line.



Saving – click on the  icon to save without exiting. Click on the  icon to save and exit.

Fields

Catalog Num – catalog number of the raw material

Name – full name of the raw material

Short Name – short name of raw material (up to 10 characters), used for displaying in places where the space for displaying the raw material name is limited. If a short name is not defined the first 10 characters of the full name will be used.

Bulk Density – bulk density of raw material (weight of material per cm³) – takes into consideration the air between pellets for example).

Density – density of raw material

Material – Numeric field used to define groups of raw material. Dividing the raw materials into groups allows defining whether the raw material is a main material, additive or colour and can be filtered to show only the relevant list.

4.2 Recipe management

Some products can be produced on a certain line only, others may be produced on a few lines and hence the recipes are delegated to specific lines. Similar lines share the same recipes.



Click the button to access the recipes management screen:

The screenshot shows a Windows-style dialog box titled "Recipes". On the left, there's a vertical toolbar with buttons for "Edit ...", "Add ...", "Delete", and "Make Copy". Below that is another section with buttons for "Production order" and "Add To Queue ...". A dropdown menu labeled "Line Name" is set to "Line 1". The main area is a table with columns: Catalog number, RecipeName, and Comments. The data in the table is as follows:

Catalog number	RecipeName	Comments
123456	GB-480	
445222	HR-221	
562464	SR-400	
667345	TD-553	

At the bottom left is a checkbox labeled "Name as index" with an unchecked state. At the bottom right is a red "X" button for closing the window.

4.2.1 Sorting

The list on the dialog box can be sorted as follows:

Choosing the relevant line will update the list accordingly (showing the line's recipes only).

By default, the recipes are sorted by their ascending catalog numbers. Checking the check box **Name as index** will sort the list by ascending recipe name (product name).

4.2.2 Editing recipes

Mark a recipe and click the “Edit...” button to access the edit recipe screen:

The screenshot shows the "Recipe Edit" dialog box. At the top left is the title bar "Recipe Edit". Below it are three input fields: "Catalog Number" (667345), "Recipe name" (TD-553), and "Comments" (empty). To the right of these is a group box titled "Add By Line" containing a "Add" button and a dropdown menu set to "Line 1". The main area is a table with columns: Description, Contents, Set value, Unit, and Remark. The table contains the following data:

Description	Contents	Set value	Unit	Remark
Weight per meter		41.3	g/m	
Doser				
Channel 1	0002	90	%	COPO
Channel 2	0001	10	%	HOMO
Channel 3	0000	0	%	..
Channel 4	0000	0	%	..

At the bottom are three buttons: a green checkmark, a printer icon, and a red X.

Modifying a value – Double click on one of the list items will invoke its modifying dialog box.

Adding values – As the recipes may be shared by several lines, a specific recipe may have been saved on a line with fewer components than the one to be loaded, so the values have to be added. To add these values do the following:

In the “Add By Lines” group box, choose the required line.

Click the “Add” button, which will add all of the missing values.

Modify the added values to the recipe’s correct values.

Printing – Clicking the printer button will print the recipe.

4.2.3 Adding recipes

Click the “Add...” button to make a new recipe and open the edit recipe screen. The newly created recipe receives a default product catalog number. Replace the default catalog number with the correct product catalog number, enter the correct values for all of the recipe ingredients and save the recipe.

4.2.4 Deleting recipes

To delete a recipe, select it from the list and click the “Delete” button.

4.2.5 Duplicating recipes

To duplicate a recipe carry out the following:

Select it from the list.

Click the “Make Copy” button. A new recipe will be created which is the exact duplicate of the original, with a different product catalog number.

Update the product catalog number and the recipe name.

4.2.6 Create production orders

Add the production order number to the required recipe and send it to the required line as follows:

Select the required line on the combo box.

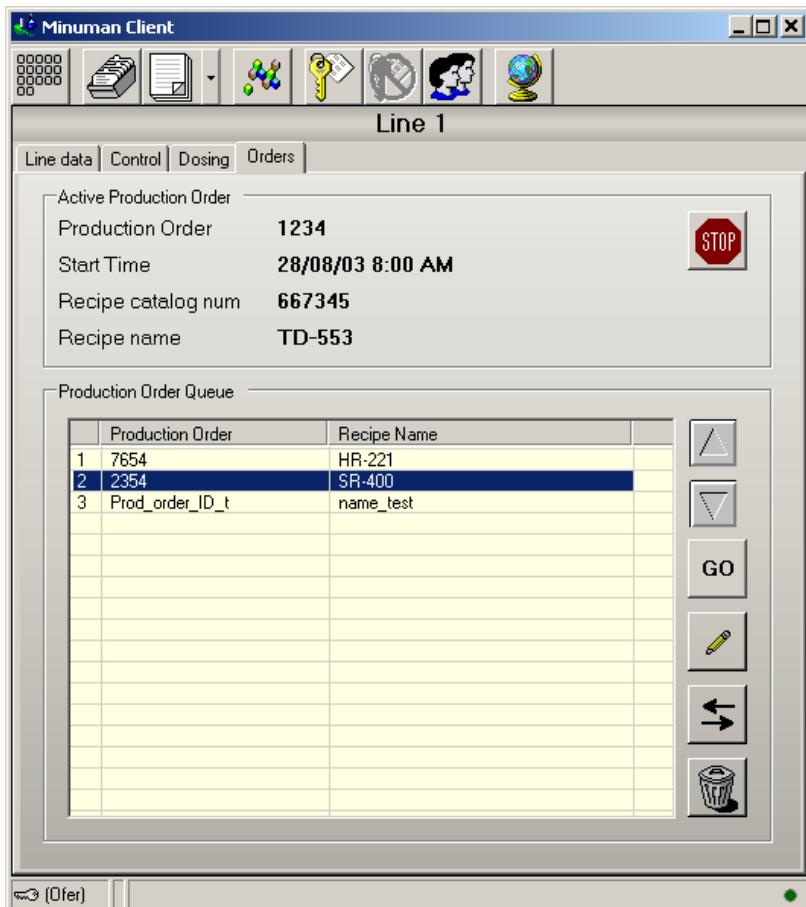
Select the required recipe from the list

In the “Production Order” group box, fill in the production order number.

Click the “Add To Queue” button. An acknowledge message box will notify the action’s success.

4.3 Production orders queue

Each line has its own production order queue that appears as follows:



The current (active) production order is shown on the top of the screen.

4.3.1 Loading



Clicking the **GO** button will load the list's first order to the line, changing all the recipe's set-points. A message box will appear asking whether to return the old order back to the queue (sometimes the old order has not been completed and will continue at a later stage).

4.3.2 Priority

The production orders are loaded according to the queue (top row first). The order of the queue can be changed by first highlighting the required production order and then using



the **Up arrow** and **Down arrow** icons to change the position of the production order.

4.3.3 Editing an order's recipe

It is possible to edit a queue's production order's recipe, editing this recipe will affect the order's recipe only and will not have any effect on the original recipe.

To edit a queue's production order carry out the following:

Select the desired production order.



Click the button or double click the desired production order, this will invoke the edit recipe dialog box, as described in “Recipe editing” section with the following exceptions:

Changing the product catalog number, product name, or performing “Adding values” are not allowed.

Dosing systems values cannot be changed, channel switching can be achieved by dragging, using the right mouse button. Some of the materials that are going to be used are already in the dosing system's channels, changing the recipe's channels will utilize these materials.

4.3.4 Moving Production Orders between Machines

In order to move a production order from one machine to another:

Highlight the required production order.



Click on the icon. Select the required machine on the dialogue box that appears.

4.3.5 Deleting Production Orders

In order to move a production order from one machine to another:

Highlight the required production order.



Click on the icon.

4.4 ERP communication

The InjMan program can communicate with external systems, receive machine production orders and return performance reports.

The communication is by XML files whose format varies between installations.

4.4.1 Import production orders

The ERP program can prepare a production order and send it to the MinuMan program. The production order will be added to the designated line.

4.4.2 Export production orders

Upon finishing an order, whether it has returned to the queue or not, the MinuMan program issues a performance report of totals and time ranges.

5 Database

The MinuMan program database is MSDE (a compact version of SQL Server).

The MinuMan program automatically backs up the database and therefore requires no maintenance.

6 Reports

6.1 Consumption reports

Some of the data available about the line accumulates over time, such as material consumption, number of drippers, motor working time, etc.

The MinuMan program saves these values at the end of every shift, production order loading or changing of a material name therefore the reports are restricted to these times.

Note:

In general, it is more accurate to measure material entering the machine or absolute measurable values (injections), rather than material exiting the machine (products) because it is difficult or sometimes impossible to define the approved part of material measured in the machine exit. It is therefore preferable to issue reports of absolute accumulations or entries into the machine.

6.2 Material consumption report

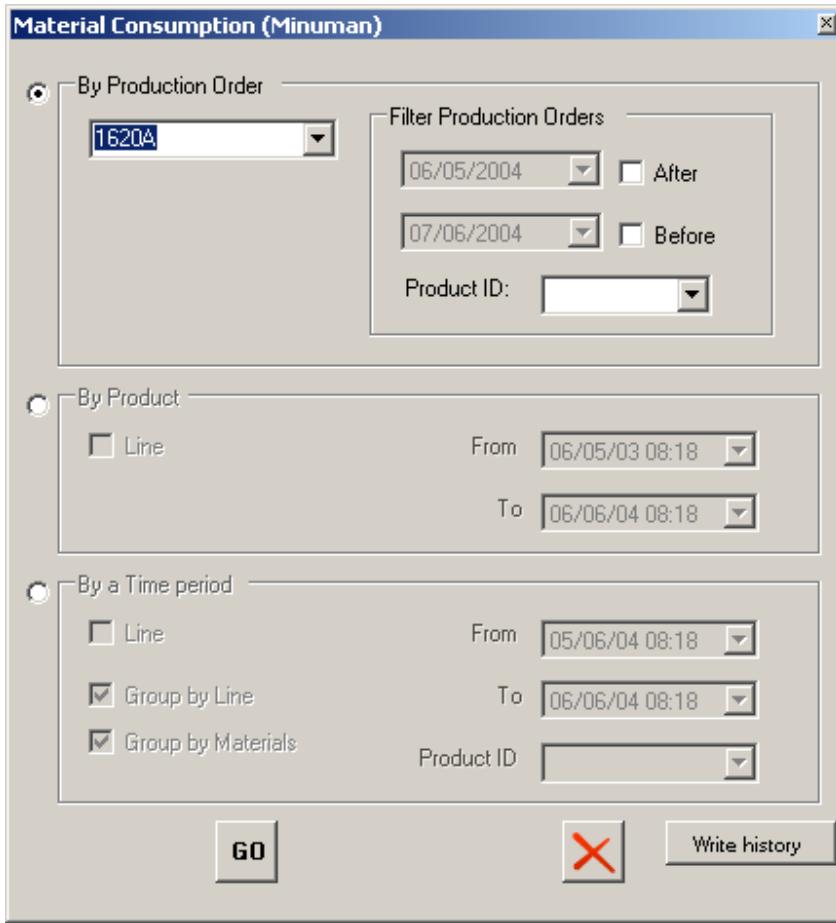


To produce a raw material consumption report, click the right part of the button and select the “Material Consumption” menu. An option dialog box will appear, as described below.

6.2.1 Database update action

As mentioned above, the database update is carried out upon shift changing. If an up-to-date report must be produced (there is no information of what happened from the beginning of the shift until this point) a database update action can be forced by clicking the “Write History” button. Now an up-to-date report can be produced.

6.2.2 Consumption report by production order



Choose the desired order and click the **GO** button.

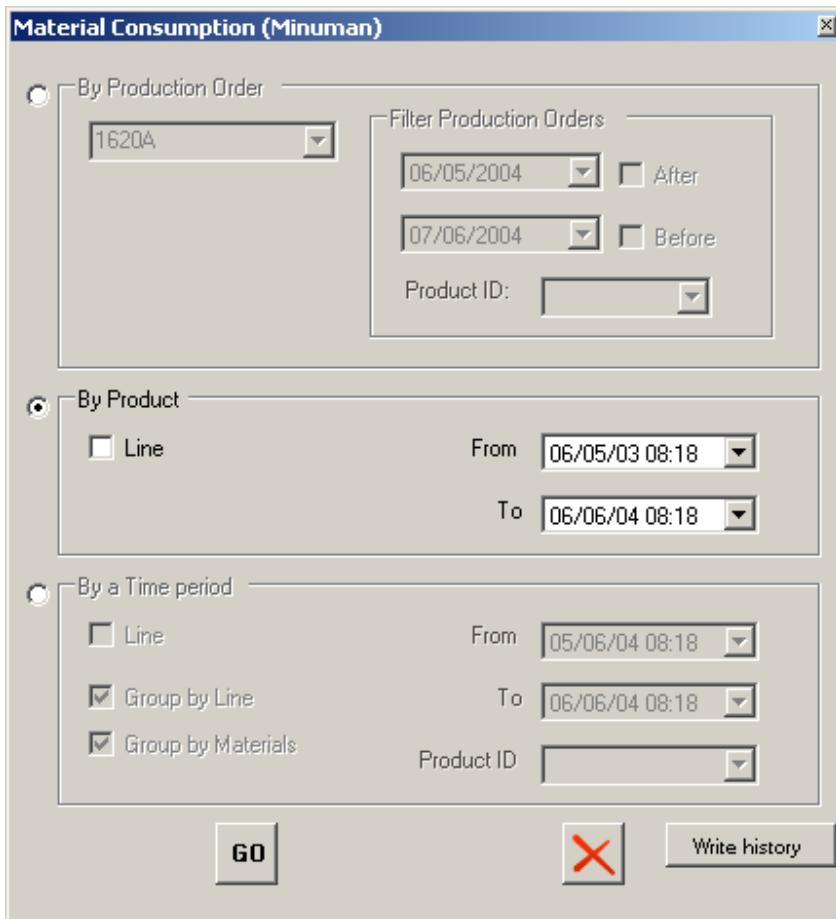
Filtering

Narrowing down the production orders list can be done in the “Filter Production Orders” group box as follows:

Define time boundaries. Only the orders that started between the given times boundaries will appear in the combo box’s list. Time boundaries is optional, e.g. if not checked, the time boundary is ignored.

On “Product ID” combo box, choose the desired production order. Only the orders of that product will appear in the combo box’s list. The “Product ID” combo box’s list is filled according to the time boundaries. The “Product ID” filter is optional, e.g. if it left empty, all the production orders between the given times will appear on the combo box list.

6.2.3 Consumption report by product



Enter the time boundaries and choose the correct line option as follow:

Line – Checking this check box allows choosing a designated line.

<input checked="" type="checkbox"/> Line	Line 1
<input type="checkbox"/> Group by Line	

Unchecking the check box will cause the report to show all of the lines.

GO

Now click the **GO** button to invoke the report.

6.2.4 Consumption report by time

Material Consumption (Minuman)

By Production Order
 Filter Production Orders
 After
 Before
Product ID:

By Product
 Line From
To

By a Time period
 Line From
 Group by Line To
 Group by Materials Product ID:

GO **X** Write history

Enter the time boundaries and choose from the following options:

Line – As mentioned above, checking this check box allows choosing a designated line.

Product ID – Choose the desired product. The report will contain the consumption of this product only. The “Product ID” filter is optional, e.g. if it is left empty, the report will contain the consumptions of all of the products between the given time boundaries.

Group by Line – Check this check box to sort the report by lines.

Group by Materials – Check this check box to report the total amount of each material. Uncheck this check box to show all the database table’s records as is (for debugging).

GO

Now click the **GO** button to invoke the report.

6.3 Dosing trace report

All dosing manipulation actions are documented in the database.



To trace dosing manipulations, click the right part of the button and select “Dose Settings report” menu. An option dialog box will appear, as described below.

Time boundaries – The report will show all the actions carried out between the given times boundaries.

Line – Checking the line check box will cause the lines combo box



to appear. Select the required line for reporting. Uncheck the check box to produce a report containing all of the lines.

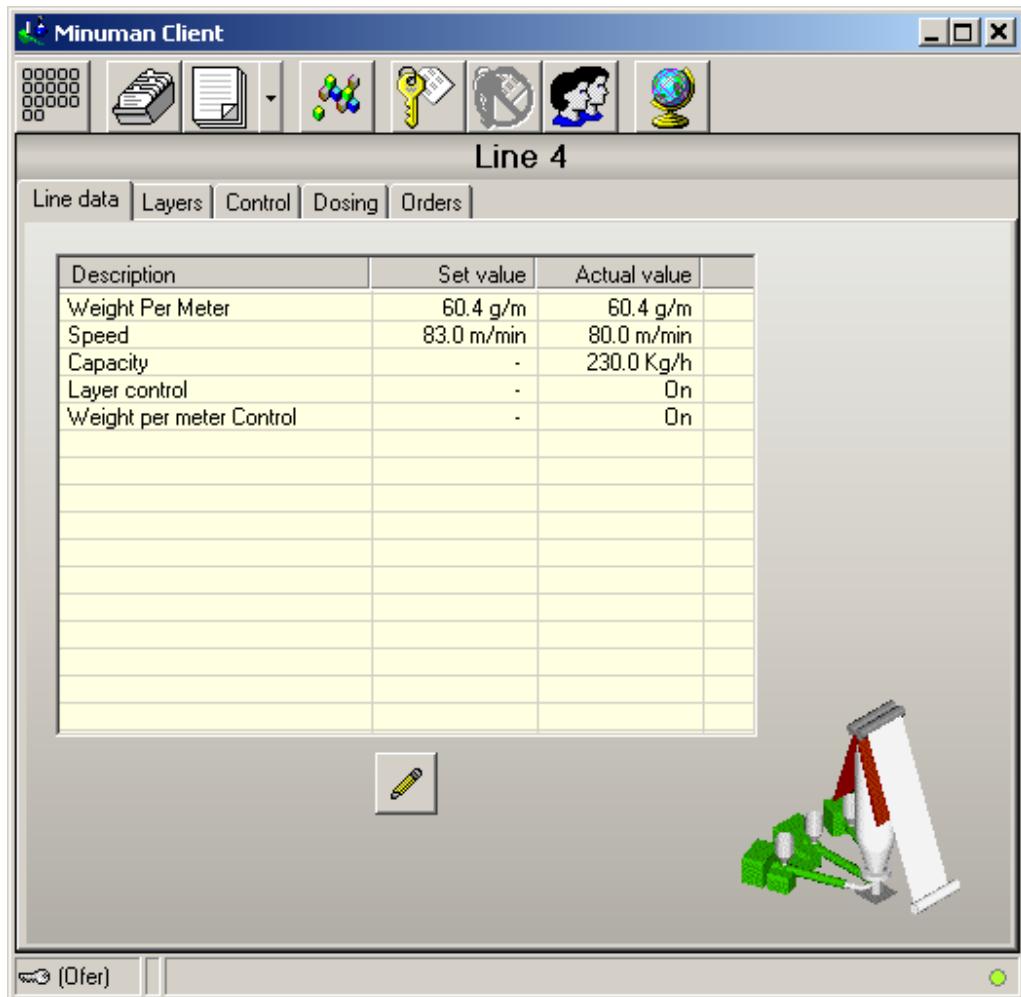
7 Appendix

7.1 Operation screens

This appendix shows some operation screen examples. Operation screens may differ from one installation to another and in some cases there will be screens that are not described here. However the structure of all the screens is similar enabling easy handling of all screens.

7.1.1 Line data

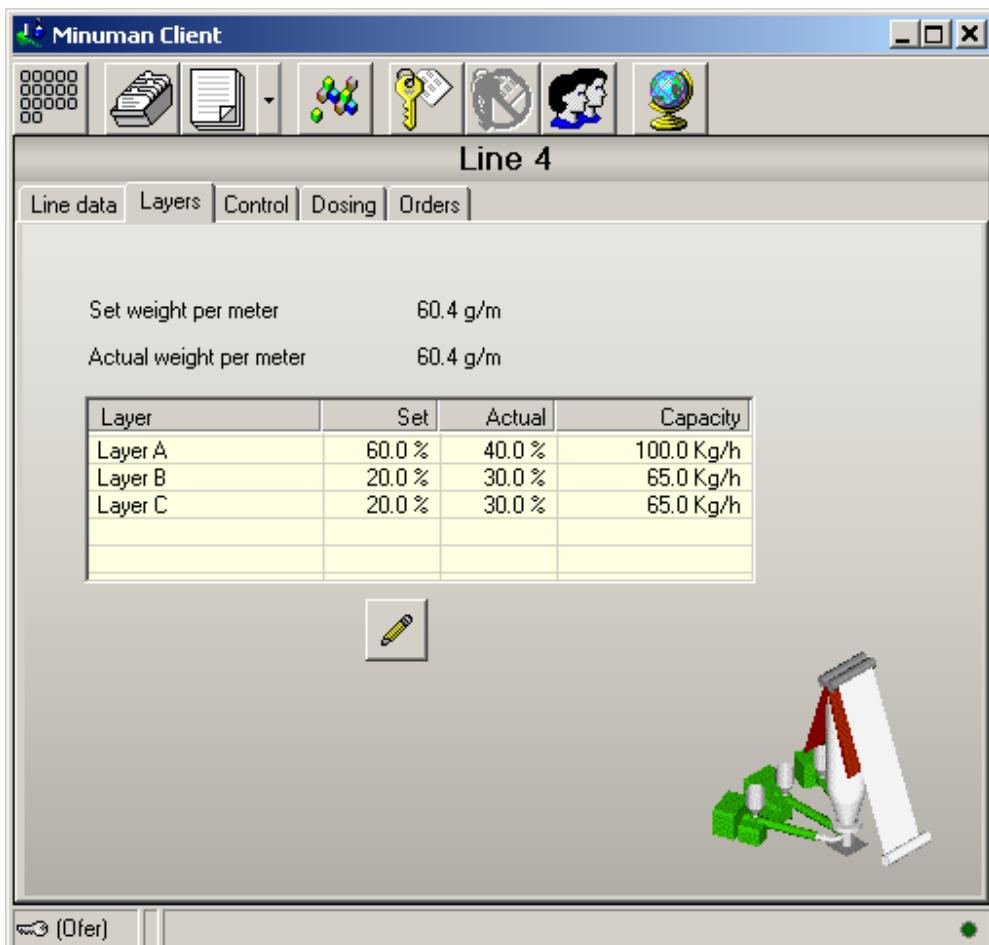
This screen shows the line's manufacturing values, some of them are set-points which can be edited by clicking the  button.



Line data screen

7.1.2 Layers

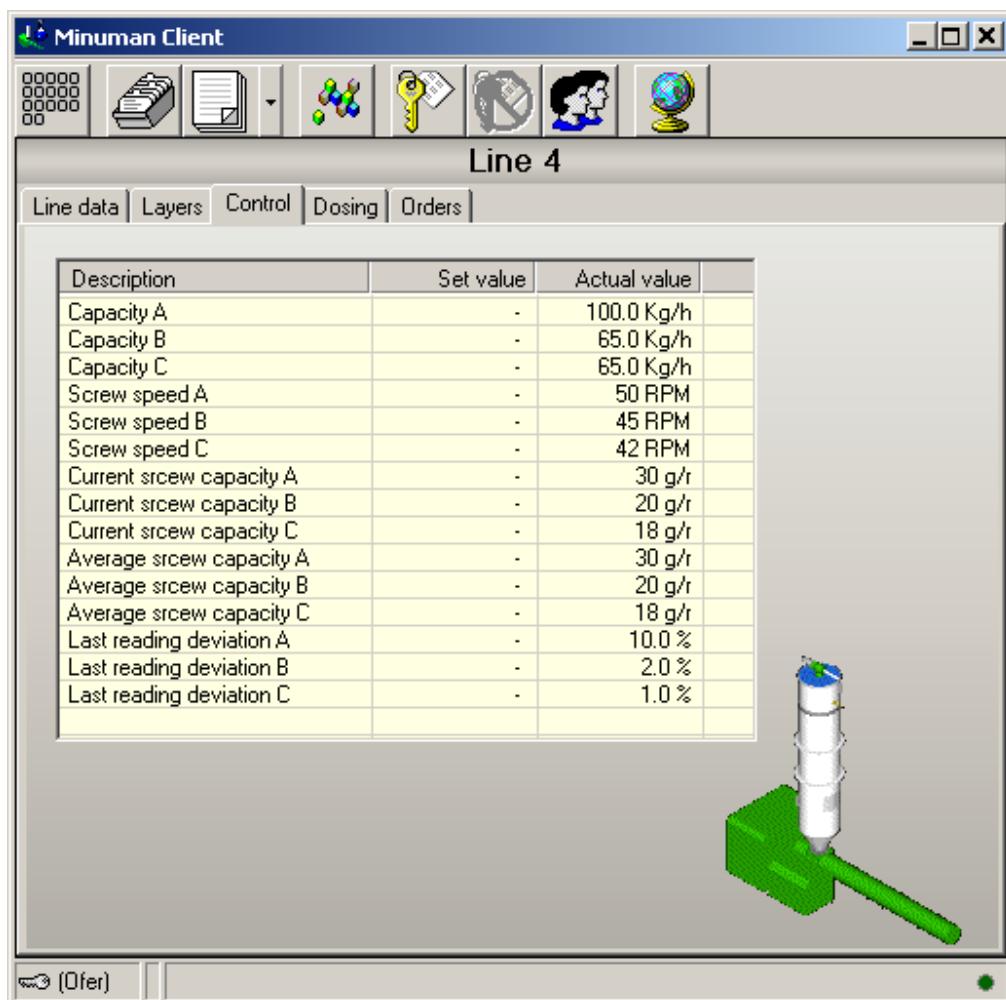
This screen exists on co-extruders lines. The set-points can be changed in the same way. The weight per meter is shared with the line data screen, so changing it on one screen will change it on the other screen as well.



Layers Screen

7.1.3 Control

This screen shows the current internal control values. In some cases it is important for Sysmetric's engineers to know these values, for better control settings.



7.1.4 Dosing

This screen shows the line's dosing systems.



Clicking the button of one of the dosing systems opens the dosing editing screen, which allows editing the formula and sending it to the dosing system. The “Set” values will change immediately, and the “Active” values will change at the beginning of the next dosage preparation.

The “Active” values are used by the dosing system for preparing the dosage. It is separated from the “Set” values to allow changing of the “Set” values while the dosing system is in the middle of a dosage preparation. This way, the dosage will be finished correctly and will only use the new formula on the next dosage.

The screenshot shows the Minuman Client software interface for Line 4. The top menu bar includes Minuman Client, File, Layers, Control, Dosing, and Orders. Below the menu is a toolbar with various icons. The main window displays three tables for Doser A, Doser B, and Doser C, each listing material names, set percentages, active percentages, actual weights, and total weights. A summary box at the bottom indicates a total weight of 3,000.000 Kg. To the right of the tables is a 3D model of a dosing unit. At the bottom left is a toolbar with icons for Open, Save, and Print. The title bar at the bottom reads "Dosing Screen".

Doser A	Doser B	Doser C							
Material Name	Set %	Active	Actual	Total (Kg)	Material Name	Set %	Active	Actual	Total (Kg)
1 COPO	79.0	60.0	60.04	600.000	1 COPO	90.0	70.0	70.00	700.000
2 HOMO	20.0	40.0	39.99	400.000	2 HOMO	10.0	30.0	30.00	300.000
3 Red	1.0	0.0	0.00	0.000	3 ..	0.0	0.0	0.00	0.000
4 ..	0.0	0.0	0.00	0.000	4 ..	0.0	0.0	0.00	0.000
				1,000.000					1,000.000

Total: 3,000.000 Kg

7.2 Reports

This appendix contains examples of reports. Custom reports can be added by Sysmetric on demand.

The program uses SQL server data base enabling the user to create custom reports.

7.2.1 Material consumption by production order

The report's upper section shows the production order number and manufacturing periods including the producing line number and the recipe name (product name).

The actual report shows the material consumption for each raw material separately, by producing lines (the order could be made by more than one line), and the total weight of that order.

Report View

MainReport

03/09/03

Material Consumption

Production Order: 9933

Line Name	Start Time	End Time	Duration (Hours)	Recipe Name
Line 2	16/06/03 2:30:37PM	16/06/03 11:45:55PM	9.26	GS-450
Total duration:				9.26

Line Name	Catalog Number	Material Name	Amount (Kg)
Line 2	0000	--	46,921.19
Line 2	0001	HOMO	12,931.49
Line 2	0002	COP0	11,921.19
Line 2	10002	Blue	4,530.05
Total Amount: 76,303.92			

Current Page No: 1 Total Page No: 1 Zoom Factor: 100%

Example of Material Consumption by Production Order Report

7.2.2 Material consumption by product

Report of each product's material consumption between given time boundaries.

Report View

MainReport

06/06/2004

Material Consumption All lines

Line	Product	Catalog No.	Material	Amount(Kg)	Start Time	End Time	
Line 1	120003350632	PE BLACK 35 0005					
		01012201	DEALIM_TR-147	2,244.57	14/08/2003 11:42:14	15/08/2003 13:54:23	
		01020303	BOREALIS_VS4480	1,018.08	14/08/2003 11:42:14	15/08/2003 13:54:23	
		0201082	KAFRIT_BLACK_PEK29	75.35	14/08/2003 11:42:14	15/08/2003 13:54:23	
		0301213	TOSAF_TA+AO_A0408P	27.59	14/08/2003 11:42:14	15/08/2003 13:54:23	
		0305213	TOSAF_UV_006240	27.77	14/08/2003 11:42:14	15/08/2003 13:54:23	
			Product total:	3,393.36			
Line 2		PE BLACK 30 0009					
		01012201	DEALIM_TR-147	52,718.81	10/07/2003 21:30:00	10/08/2003 07:46:27	
		01101603	ATOFINA_HDPE_7208	2,086.57	10/07/2003 21:30:00	13/07/2003 10:26:09	
		0201211	TOSAF_BLACK_R-99202	2,246.83	10/07/2003 21:30:00	10/08/2003 07:46:27	
		0301213	TOSAF_TA+AO_A0408P	711.64	10/07/2003 21:30:00	10/08/2003 07:46:27	
		0305213	TOSAF_UV_006240	667.64	10/07/2003 21:30:00	10/08/2003 07:46:27	
		01020303	BOREALIS_VS4480	21,742.03	13/07/2003 10:26:09	10/08/2003 07:46:27	
			Product total:	80,173.51			
		PE_BLACK_35_0001					
		0201082	KAFRIT_BLACK_PEK29	.86	10/08/2003 05:18:28	10/08/2003 05:40:16	
		01012201	DEALIM_TR-147	8,712.38	10/08/2003 07:46:27	15/08/2003 08:47:11	
		01020303	BOREALIS_VS4480	3,937.66	10/08/2003 07:46:27	15/08/2003 08:47:11	
		0201082	KAFRIT_BLACK_PEK29	343.91	10/08/2003 07:46:27	15/08/2003 08:47:11	
		0301213	TOSAF_TA+AO_A0408P	117.28	10/08/2003 07:46:27	15/08/2003 08:47:11	
		0305213	TOSAF_UV_006240	114.94	10/08/2003 07:46:27	15/08/2003 08:47:11	

Current Page No: 1 Total Page No: 1+ Zoom Factor: 100%

Example of Material Consumption by Product Report

7.2.3 Material consumption by time period, grouped by materials

Report of material consumption between given time boundaries.

The screenshot shows a Windows application window titled "Report View". The main title bar says "Report View". Below it is a toolbar with icons for back, forward, search, and other functions. The main content area is titled "MainReport". At the top left of the report area, it says "03/09/03". The report title is "Material Consumption" with the subtitle "All lines, Grouped by Material". Below the title is a table with the following data:

Catalog Number	Material Name	Amount (Kg)	Start Time	End Time
0000	- -	3,260.00	28/08/03 7:23:59AM	28/08/03 8:00:11AM
0001	HOMO	4,900.00	28/08/03 7:23:59AM	28/08/03 8:00:11AM
0002	COP0	19,550.00	28/08/03 7:23:59AM	28/08/03 8:00:11AM
10002	Blue	4,884.00	28/08/03 7:23:59AM	28/08/03 8:00:11AM

Total Amount: 32,594.00

From: 28/08/03 7:23:59AM To: 28/08/03 8:00:11AM

Current Page No: 1 Total Page No: 1 Zoom Factor: 100%

Example of Material Consumption by Time, Grouped by Materials Report

7.2.4 Material consumption by time period, grouped by lines

Report of material consumption between given time boundaries for each line separately.

The screenshot shows a 'Report View' window titled 'MainReport'. The date '03/09/03' is displayed at the top left. The report title is 'Material Consumption All lines, Grouped by Line and Material'. The data is presented in three sections corresponding to 'Line 1', 'Line 2', and 'Line 3', each with a table of consumption details. Line 1 has 5 entries, Line 2 has 4 entries, and Line 3 has 6 entries. Total amounts for each line and the overall total are shown at the bottom of each section. The columns in the tables are: Catalog Number, Material Name, Amount (Kg), Start Time, and End Time.

Catalog Number	Material Name	Amount (Kg)	Start Time	End Time
Line 1				
0001	HOMO	4,150.41	15/06/03 11:58:53AM	15/07/03 1:55:32PM
0002	COPO	15,500.07	15/06/03 11:58:53AM	15/07/03 1:55:32PM
10001	Red	13,001.30	15/06/03 11:58:53AM	15/07/03 1:55:32PM
10003	Green	1,080.00	15/06/03 11:58:53AM	15/07/03 1:55:32PM
10002	Blue	9,000.90	18/06/03 2:15:03PM	17/06/03 4:00:02PM
Line Total Amount:				42,732.68
Line 2				
0000	--	1,250.12	15/06/03 11:58:59AM	19/07/03 11:59:53PM
0001	HOMO	1,210.30	15/06/03 11:58:59AM	15/07/03 1:55:32PM
0002	COPO	1,800.00	15/06/03 11:58:59AM	15/07/03 1:55:32PM
10002	Blue	1,230.28	15/06/03 11:58:59AM	15/07/03 1:55:32PM
Line Total Amount:				5,490.70
Line 3				
0000	--	13,481.35	15/06/03 11:56:53AM	19/07/03 11:59:53PM
0001	HOMO	2,210.22	15/06/03 11:56:53AM	15/07/03 1:55:32PM
0002	COPO	2,190.22	15/06/03 11:56:53AM	15/07/03 1:55:32PM
011211		323.01	17/06/03 8:36:58AM	19/07/03 11:59:53PM
011400		9,000.07	17/06/03 8:36:58AM	19/07/03 11:59:53PM
766166		9,000.90	17/06/03 8:36:58AM	19/07/03 11:59:53PM
Line Total Amount:				36,205.77
Total Amount:				
84,429.15				

Example of Material Consumption by Time, Grouped by Lines Report

7.2.5 Raw consumption report by time period

This report shows the database table for tracing and debugging purposes.

The screenshot shows a Microsoft Report View window titled "MainReport". The report is titled "Material Consumption All lines" and displays data from August 28, 2003. The data is presented in a table with columns: Production Order, Catalog Number, Material Name, Amount (Kg), Start Time, and End Time. The table includes 14 rows of data, with a total amount of 32,594.00. The report also shows the time range from 7:23:59AM to 8:00:11AM. At the bottom, there are page navigation controls: Current Page No: 1, Total Page No: 1, and Zoom Factor: 100%.

Production Order	Catalog Number	Material Name	Amount (Kg)	Start Time	End Time
7654	0002	COPO	6,500.00	28/08/03 7:23:59AM	28/08/03 7:39:39AM
7654	0001	HOMO	1,620.00	28/08/03 7:23:59AM	28/08/03 7:39:39AM
7654	10002	Blue	1,618.00	28/08/03 7:23:59AM	28/08/03 7:39:39AM
7654	0000	--	1,080.00	28/08/03 7:23:59AM	28/08/03 7:39:39AM
7654	0002	COPO	6,500.00	28/08/03 7:39:39AM	28/08/03 7:41:18AM
7654	0001	HOMO	1,620.00	28/08/03 7:39:39AM	28/08/03 7:41:18AM
7654	10002	Blue	1,618.00	28/08/03 7:39:39AM	28/08/03 7:41:18AM
7654	0000	--	1,080.00	28/08/03 7:39:39AM	28/08/03 7:41:18AM
7654	0002	COPO	6,550.00	28/08/03 7:41:18AM	28/08/03 8:00:11AM
7654	0001	HOMO	1,660.00	28/08/03 7:41:18AM	28/08/03 8:00:11AM
7654	10002	Blue	1,648.00	28/08/03 7:41:18AM	28/08/03 8:00:11AM
7654	0000	--	1,100.00	28/08/03 7:41:18AM	28/08/03 8:00:11AM

Example of Raw Consumption by Time Period Report

7.2.6 Raw consumption report by time period, grouped by lines

Same as the previous, except that now it shows each line separately.

The screenshot shows a Windows application window titled "Report View". The main title bar says "MainReport". The window contains a report titled "Material Consumption" with the subtitle "All lines, Grouped by Line". The report is dated "03/09/03". It displays consumption data for three production lines: Line 1, Line 2, and Line 3. The columns in the table are: Production Order, Catalog Number, Material Name, Amount (Kg), Start Time, and End Time. The report includes sub-totals for each line and a final total amount. At the bottom, there is a note about the date range and page navigation information.

Material Consumption All lines, Grouped by Line					
Production Order	Catalog Number	Material Name	Amount (Kg)	Start Time	End Time
Line 1					
7766	0001	HOMO	3,950.40	15/06/03 11:58:53AM	17/06/03 4:04:07PM
7766	0002	COP0	3,950.39	15/06/03 11:58:53AM	17/06/03 4:04:07PM
7766	10001	Red	4,000.40	15/06/03 11:58:53AM	17/06/03 4:04:07PM
7766	10003	Green	270.40	15/06/03 11:58:53AM	17/06/03 4:04:07PM
Line Total Amount:				12,171.58	
Line 2					
9933	0000	--	1,250.12	15/06/03 11:58:59AM	17/06/03 4:04:07PM
9933	0001	HOMO	1,210.30	15/06/03 11:58:59AM	17/06/03 4:04:07PM
9933	0002	COP0	1,190.12	15/06/03 11:58:59AM	17/06/03 4:04:07PM
9933	10002	Blue	1,230.28	15/06/03 11:58:59AM	17/06/03 4:04:07PM
Line Total Amount:				4,880.82	
Line 3					
-	0000	--	2,230.22	15/06/03 11:56:53AM	17/06/03 4:04:07PM
-	0000	--	2,250.22	15/06/03 11:56:53AM	17/06/03 4:04:07PM
-	0001	HOMO	2,210.22	15/06/03 11:56:53AM	17/06/03 4:04:07PM
-	0002	COP0	2,190.22	15/06/03 11:56:53AM	17/06/03 4:04:07PM
Line Total Amount:				8,880.88	
Total Amount:				25,933.29	
From: 15/06/03 11:56:53AM			To:	17/06/03 4:04:07PM	
Current Page No: 1	Total Page No: 1	Zoom Factor: 100%			

Example of Raw Consumption by Time Period, Grouped by Lines Report

7.2.7 Dosing trace report

<u>LogTime</u>	<u>Line</u>	<u>Doser</u>	<u>Nick</u>	<u>Production Order</u>
28/08/03 7:23:59AM	Line2	A	Ofer	7654
85.0% 0002		12.0%	0001	3.0% 10002 .0% 0000
28/08/03 7:39:39AM	Line2	A	Ofer	7654
85.0% 0002		12.0%	0001	3.0% 10002 .0% 0000
28/08/03 7:41:18AM	Line2	A	Ofer	7654
85.0% 0002		12.0%	0001	3.0% 10002 .0% 0000
28/08/03 8:00:11AM	Line2	A	Ofer	1234
90.0% 0002		10.0%	0001	.0% 0000 .0% 0000
31/08/03 8:58:39AM	Line2	A	Ofer	.2% 0000 .1% 0000
89.6% 0002		10.1%	0001	
31/08/03 8:58:54AM	Line2	A	Ofer	.0% 0000 .0% 0000
90.0% 0002		10.0%	0001	
31/08/03 10:36:33AM	Line2	A	Ofer	.0% 0000 .0% 0000
90.1% 0002		9.9%	0001	
31/08/03 10:36:39AM	Line2	A	Ofer	.0% 0000 .0% 0000
90.0% 0002		10.0%	0001	

Example of Dosing Trace Report

7.2.8 Production Orders Queue Report

The report can show a specific line or all of the lines.

The currently active orders are marked with ✓.

Production order queue Wednesday, September 3, 2014		
<u>Production order</u>	<u>Recipe catalog no.</u>	<u>Recipe name</u>
Line 1		
7654	445222	HR-221
✓ 1234	667345	TD-553
2354	562464	SR-400
Prod_order_ID_t	catalogNo_test	name_test
Line 2		
2211	667345	TD-553

Example of Production Orders Queue report